BRITISH COLUMBIA

Ministry of Agriculture and Food

AGRICULTURE IN THE PEACE REGION

The British Columbia Peace region encompasses the western portion of the Great Plains. The area is bordered to the south and west by the Rocky Mountain Trench, to the north by the Yukon territorial border, and to the east by the Alberta provincial border. The North and South Peace Districts are divided by the historical Peace River.

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I. INTRODUCTION

A. Overview of Region

The British Columbia Peace region encompasses the western portion of the Great Plains. The area is bordered to the south and west by the Rocky Mountain Trench, to the north by the Yukon territorial border, and to the east by the Alberta provincial border. The North and South Peace Districts are divided by the historical Peace River. The region is home to the largest man-made lake in British Columbia, Williston Lake, which was created in the mid 1960's. Williston Lake supports electricity generation at the W.A.C. Bennett and Peace Canyon Dams which together supply 40 per cent of the province's hydroelectric power.

The Peace region is home to a wide range of wildlife with an abundance of bear, elk, moose, and deer. During the summer months, the area is popular with tourists travelling along the Alaska Highway. Dawson Creek is world famous as the Mile Zero start of the Alaska Highway.

Agriculture has a long history in the Peace region. Historically, the dominant annual crops in production have been wheat, oats, barley and canola. The strength and diversity of the agriculture industry in the Peace are evident by the expansion into forage seed crops, specialty field crops, honey, livestock, and game farming. More canola, wheat, oats, barley, peas, and forage seeds are produced in this area than in any other region of the province. Between 85 per cent and 90 per cent of B.C.'s grain and approximately 95 per cent of British Columbia's canola are produced in the Peace. As well, the Peace is one of the best areas in the world for producing exceptional quality grass seeds. Together, the Alberta and B.C.'s Peace region produces more higher value grass seeds (fine seeds) than the rest of Canada.

Beef cattle production plays a major role in the Peace's agriculture economy. Small farms with relatively few cattle are being replaced by larger farms with larger herds. Other livestock production, including dairy cattle, horses, swine, llamas, sheep, and goat, does occur in the Peace, but on a much smaller scale. Game farming, however, is one industry that is expanding rapidly. The Peace accounts for more than 50 per cent of the provincial plains bison farms.

For many decades the agriculture industry has been the backbone of the Peace region. Other prominent industries include oil and gas, tourism, and forestry. The region enjoys a very stable economy which can be attributed to its diverse economic base.

Bales of hay waiting to be stacked
Picture provided courtesy of G.R. Clare

II. THE PEACE REGION

A. Climate and Topography

The Peace River region encompasses an area of 29,488,712 acres, 13 per cent of the total area of British Columbia, and includes the largest agricultural region in the province. The total area of farms in the Peace is 2,068,725 acres, twice the size of Prince Edward Island.

Approximately five per cent of B.C.'s land mass is protected within the Agriculture Land Reserve (ALR). Land included in the ALR has the potential for high agricultural productivity. One third of B.C.'s ALR land is located in the Peace region. In fact, 12 per cent (3,538,645 acres) of the total Peace region land is designated as ALR land.

The region's great geographical diversity contributes to a wide range of soil types that are suited to forage crop production. Although some soils in the Peace have limitations such as high soil acidity and low organic matter, there is ample agricultural opportunity. The Peace region also has extremely long hours of daylight during the growing season, which favors the production of light sensitive crops.

The Peace region is continental, meaning it experiences both winter and summer chinooks due to the influence of the Rocky Mountains. By contrast, an agricultural area such as Chilliwack is marine. The climate in a marine area is much more consistent, whereas a continental region experiences great variance in climate from season to season and year to year.

Table One: Climatic Table of Fort St. John and Dawson Creek

	Fort St. John	Dawson Creek
Elevation	695 m	655 m
Frost Free Days	95 - 110	95 - 115
Growing Degree Days	1,079	1,089
Average Day of Last Frost	June 11	June 4
Average Day of First Frost	September 3	September 5
Average Day of Last Killing Frost	May 12	May 11
Average Day of First Killing Frost	September 10	September 14
Annual Average Precipitation	492.6 mm	503.7 mm

Source: Environment Canada, Canadian Climate Normals 1951-1980

A. Climate and Topography continued...

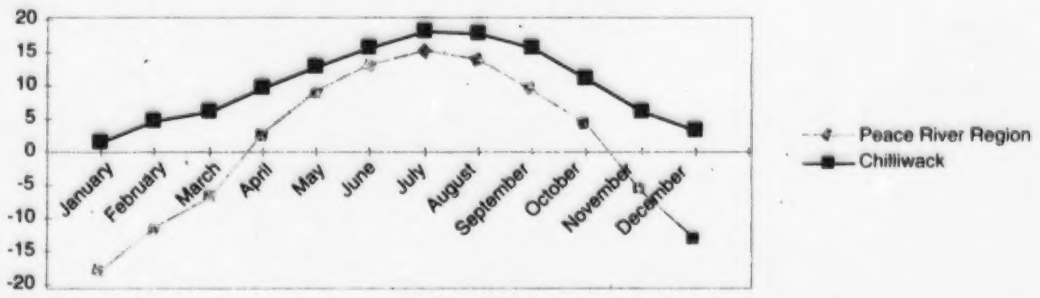
The productivity of the Peace region may be surprising at first glance, given the northern location. However, one of the prominent factors overlooked in general climatic analysis is the amount of solar energy in a given area. Solar energy is relatively high in the Peace due to the long hours of daylight. This allows crops which require a high number of growing degree days to prosper in the Peace, as the spring and summer days are longer despite the relatively shorter seasons.

Table Two: Monthly Average Temperatures (Celsius)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
FSJ	-17.7	-11.4	-6.6	2.9	9.7	13.5	15.6	14.4	9.5	4.3	-6.0	-13.2
DC	-17.7	-11.9	-7.1	2.8	9.0	12.8	14.9	13.8	9.1	4.2	-5.9	-12.9
Peace	-17.7	-11.6	-6.8	2.9	9.4	13.1	15.3	14.1	9.3	4.3	-5.9	-13.1
Chilliwack	1.5	4.7	6.1	9.5	13.0	15.8	18.2	17.9	15.6	11.0	6.1	3.3

Source: Environment Canada, Canadian Climate Normals 1951-1980

Graph One: Monthly Average Temperatures (Celsius)



B. Farmers and Farms

The majority of Peace region farmers are in the 45 to 54 age group. This statistic has remained constant over the past 10 years. A significant trend in the Peace is the increasing amount of off-farm work. With the continuous oil and gas developments in the Peace, a growing timber industry activity and a difficult economy in agriculture, second household incomes are becoming more common.

In 1996, there were 1,823 farms in the region. These farms account for one-third of the provincial farm acreage, but less than 10 per cent of the total number of farms. Peace region farms have an average size of 1,134 acres - four times larger than the average B.C. farm size of 286 acres.

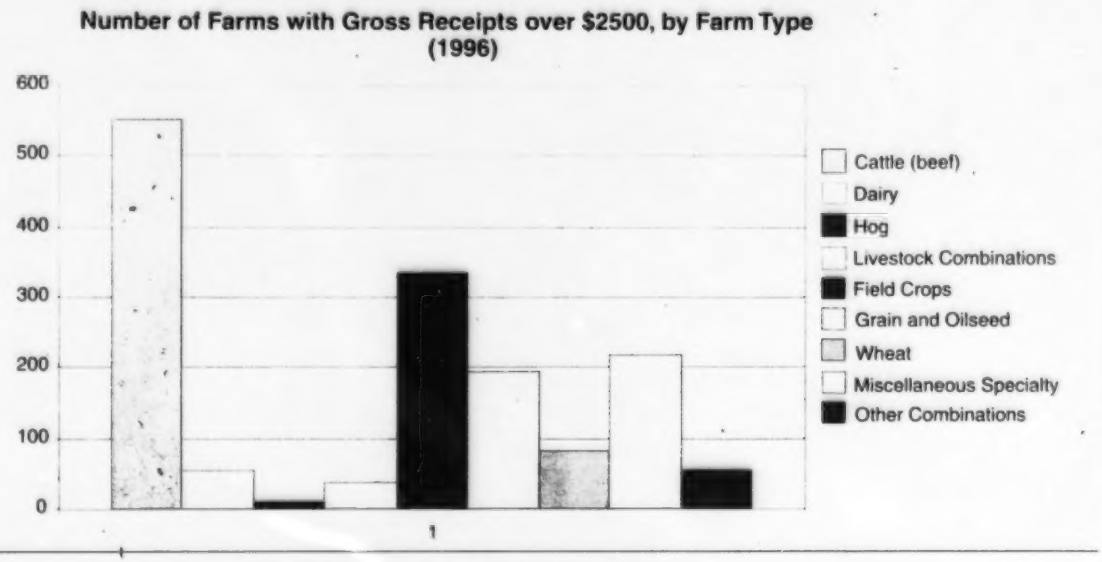
Table Three: Population Comparison of Peace Region

		1986	1991	1996
Cities:	Dawson Creek	10,554	10,981	11,125
	Fort St. John	13,335	14,156	15,021
Rural Areas:	South Peace	8,776	8,429	9,305
	North Peace	9,476	8,820	10,292
Districts:	Chetwynd	2,774	2,843	2,980
	Hudson's Hope	1,158	985	1,122
	Taylor	715	821	1,031
Village:	Pouce Coupe	813	832	894
Peace River South		N/A	34,145	34,729
Peace River North		N/A	30,072	33,601
Total Peace Region		51,996	64,217	68,330
British Columbia		2,883,367	3,282,061	3,724,500

Source: British Columbia Statistics, 1986 Census, 1991 Census, 1996 Census

B. Farmers and Farms continued...

Graph Two: Farm Income Analysis by Production



Source: Statistics Canada, Agricultural Profile of B.C. - 1996 Census

Fifty-eight per cent of the Peace region farm land is owned by the operator, while the other 42 per cent is leased or rented from private holders or through government grazing tenures. This displays a strong dependency on Crown land in the Peace region. There are eight community pastures in the Peace region. These include: Beatton-Doig, Umbach, Bear Mountain, Groundbirch, Cecil Lake, Sunset Prairie, One Island, and Wartenbe. Grazing licenses are issued by the British Columbia Ministry of Forests to each respective association, who becomes responsible for the proper management of the pasture.

Table Four: Comparison of Land Ownership

	Area Owned (acres)	Area Leased (acres)
BC	3,860,134	2,389,310
Peace	1,200,944	867,781
South Peace	547,133	423,360
North Peace	653,811	444,421

Source: Statistics Canada, Agricultural Profile of B.C. - 1996 Census

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III. THE PEACE AGRICULTURE INDUSTRY

A. Beef Cattle

Over the past decade, the cattle industry in the Peace has climbed at a steady rate. Between 1991 and 1996, the total cattle and calf population increased by 25 per cent. The majority of growth was in the heifer and steer population. The British Columbia Peace produces 10 times more beef than the Peace region population can consume in one year, making the Peace a large exporter of beef. This is based on per capita beef consumption in 1998.

The North Peace Feeders Association has an average head count of 3,036 feeder cattle purchased per year. The approximate value of the feeders in the North Peace is estimated at $1.7 million. The South Peace Feeders Association has a head count which is substantially higher, at an average of 5,243 feeders purchased per year, and an estimated value of $3 million in feeders. For both feeder associations, the majority of the feeder cattle are purchased in the months of October and November. Most stock is then overwintered, pastured the following grazing season, and sold in late summer or fall.

Cattle grazing in summer pasture

The primary objective of backgrounding is to provide optimal growth and development of the muscle and frame of the calf, while avoiding excess fat deposition. The overwinter feeding period averages 200 days in the Peace region.

There is a high dependency on Crown range for the production of cattle. Grazing tenures are issued by the provincial government (British Columbia Ministry of Forests) who, for a fee or rent, gives a rancher the right to use an area of land specified in the tenure as cattle range.

Table Five: Population of Cattle and Calves, 1996

	Peace	South Peace	North Peace	BC
Total Farms Reporting	977	527	450	9,185
Total Cattle and Calves	136,118	66,752	69,366	814,103
Bulls (over 1 year old)	3,292	1,655	1,637	18,805
Total Cows	60,518	30,117	30,401	355,225
Beef Cows	57,360	28,376	28,984	273,217
Heifers (over 1 year old)	16,191	7,810	8,381	114,455
Steers (over 1 year old)	7,982	3,507	4,475	60,182
Calves (under 1 year old)	48,135	23,663	24,472	265,436

Source: Statistics Canada, Agricultural Profile of B.C. - 1996 Census

A. Beef Cattle continued...

The most common way of marketing cattle is through a public auction; either through an auction market or directly at a ranch sale. New marketing techniques incorporate the use of electronic technology, such as satellites, videos, and the internet. Based on the 1996 statistics of the cattle and calf population in the Peace, it can be inferred that the Peace cattle industry has an approximate value of $30 million.

B. Dairy

Despite the abundance of forage and feed grown in the region, there are only four commercial dairy farms in the North Peace and two in the South Peace. Milk produced in the Peace is currently being sent to Grande Prairie, Alberta, for processing.

C. Horses

There are 789 horse farms in the Peace reporting a total horse population of 7,123. Horses are kept for a variety of purposes, including personal use, ranch use and guide and outfitter use. Surplus horses are transported to feed lots outside the region for finishing.

Horses in Aspen pasture

D. Sheep

Thirteen per cent of B.C.'s sheep production occurs in the Peace. At the annual Peace Country Sheep Sale in Dawson Creek, more than 5,000 sheep and lambs are sold. Buyers arrive from feedlots in British Columbia, Saskatchewan, Alberta, and Manitoba. Larger ranches with 600 or more ewes also hold private sales at their own farm.

Table Six: Sheep Population, 1996

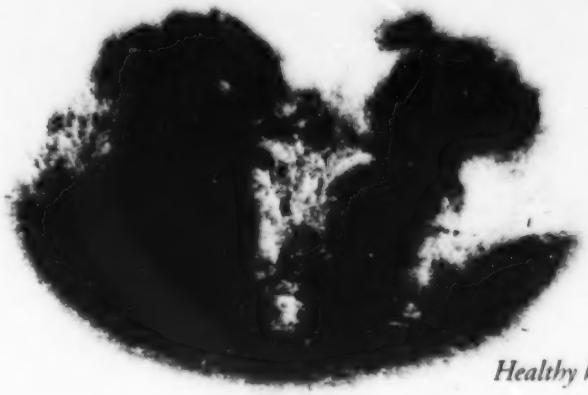
	Peace	South Peace	North Peace	BC
Total Sheep and Lambs	9,405	4,337	5,068	71,603
Rams (1 year +)	184	93	91	2,081
Ewes and Wethers (1 year +)	3,976	1,352	2,624	32,631
Lambs (under 1 year)	5,245	2,893	2,353	36,891
Farms Reporting Sheep	94	50	44	1,913

Source: Statistics Canada, Agricultural Profile of B.C. - 1996 Census

Forestry vegetation management utilizing sheep is popular in the Peace region. After conifer seedlings have been planted in an area, sheep are brought in to graze the rapidly growing undergrowth which competes with the seedlings.

E. Swine

Of all the regions in B.C., the Peace has the greatest potential for expansion of the swine industry. In 1996, 5,252 pigs were produced in the Peace region, which is equivalent to three per cent of the provincial pig population. This is an approximate value of $1.5 million. An interesting notation is that the average pig farm in the North Peace holds 42 pigs, while the South Peace doubles this number at an average of 82 pigs per farm.



Healthy hogs

Table Seven: Swine Population, 1996

	Peace	South Peace	North Peace	BC
# of Farms Reporting	86	41	45	1,411
Total Pigs	5,252	3,380	1,872	174,169
Boars (6 months +)	61	35	26	1,376
Sows and Bred Gilts	424	236	188	19,640
Total Other Pigs	4,767	3,109	1,658	153,153

Source: Statistics Canada, Agricultural Profile of B.C. - 1996 Census

Since 1996, at least 2,500 sows have been added to the Peace region. This has increased the sow population to an unofficial estimation of 3,000. In three short years, the Peace progressed from having two per cent of the provincial sow population to approximately 15 per cent of the provincial population.

Almost all swine for slaughter must be marketed through the B.C. Hog Marketing Commission. There is one hog slaughter facility located in Dawson Creek. Large numbers of hogs are marketed in Alberta, with some being shipped to Saskatchewan, Manitoba, B.C.'s Lower Mainland, and locations across the United States, such as California.

F. Game Farming

Under the *Wildlife Act*, game farming of plains bison, reindeer, and fallow deer is permitted in B.C. Both reindeer and plains bison are well suited to the rangeland and forage available in the Peace. This has led to an increase in the number of game farms in the area and an increased interest in game farming.

Plains bison constitute 40 per cent of B.C.'s game farming industry. There are 31 plains bison farms in the Peace, 54 per cent of the provincial total. The 31 farms hold 4,570 bison, 73 per cent of the provincial bison population.

In B.C. there are only seven reindeer game farms, five of which are located in the Peace region. The Peace has three quarters of the total provincial reindeer population, which sits at 175.

Bison on the Loiselle Ranch in Dawson Creek Picture provided courtesy of G.R. Clare

G. Exotics

The production of many other animal species occurs in the Peace, including llama, alpaca, fox, ostrich, emu, and wild boar.

In 1996, 12 farms in the Peace region combined for a llama and alpaca population of 63. This is a small portion of the provincial total. Most llamas and alpacas in the Peace are kept on small parcels of land which limits the number of animals a farmer may raise or breed.

At one time, fur farming of fox was quite popular in the Peace. Currently, six of British Columbia's 10 fox farms are located in the Peace region. The fox population in the Peace is currently 830, two-thirds of the provincial total.

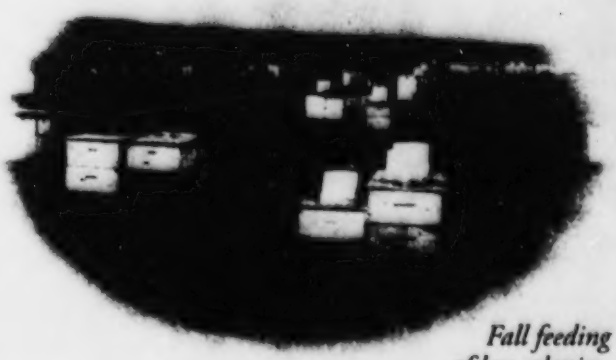
Llama in the sun Picture provided courtesy of Andy Tillman

H. Apiculture

There are an estimated 200 registered beekeepers in the Peace region. Two of the registered operators are large, with about 1,500 hives each, and four are medium-sized, having between 200 and 1,000 hives each. The remaining operators have fewer than 200 hives each, accounting for approximate total of 7,000 hives in the region.

The Peace has only two per cent of the province's beekeepers who account for 10 per cent of the provincial total of hives, while, in most years, producing 30 per cent of the provincial honey crop. The large acreage of bee forage and long daylight hours in the summer months result in an average hive yield of 150 pounds of honey. The two large operators are federally registered packing plants.

There is a widespread honey market throughout western Canada. Bulk honey may be sold to the Alberta Honey Producer's Co-op, to packers in southern B.C. or eastern Canada, or be exported to the United States.



Fall feeding of bee colonies

I. Field Crops

The Peace produces a wide variety of high quality field crops. In 1996, slightly less than 95 per cent of British Columbia's canola production was from the Peace region, with an approximate value of $14.5 million dollars. This originated from 61,446 acres of canola, enough to cover the city of Vancouver twice in canola fields. As well, the value of wheat produced in the Peace was $17 million, with an acreage of 85,000 in 1996, enough to cover the city of Montreal twice. The area of alfalfa and alfalfa mix grown in the Peace (158,000 acres in 1996) could cover the entire metropolitan area of Toronto.

There has been a tremendous growth in the production of field peas and grass seeds over the last few years. The Peace is now responsible for 90 per cent of the dry field pea production in British Columbia, as well as 95 per cent of the provincial forage seed production.

Table Eight: Yield and Production of Grain Crops, 1998

	PEACE		BC TOTAL	
	Yield bu/ac	Prodn. '000 bu.	Yield bu/ac	Prodn. '000 bu.
Wheat	41.9	2,410	41.9	2,810
Oats	66.2	2,800	66.2	4,300
Barley	50.5	3,050	50.5	4,750
Rye	40.0	40	40.0	160
Canola	27.0	2,500	27.0	2,700
Dry Field Peas	33.5	335	33.5	335

Source: Statistics Canada, Field Crop Reporting Series 1998

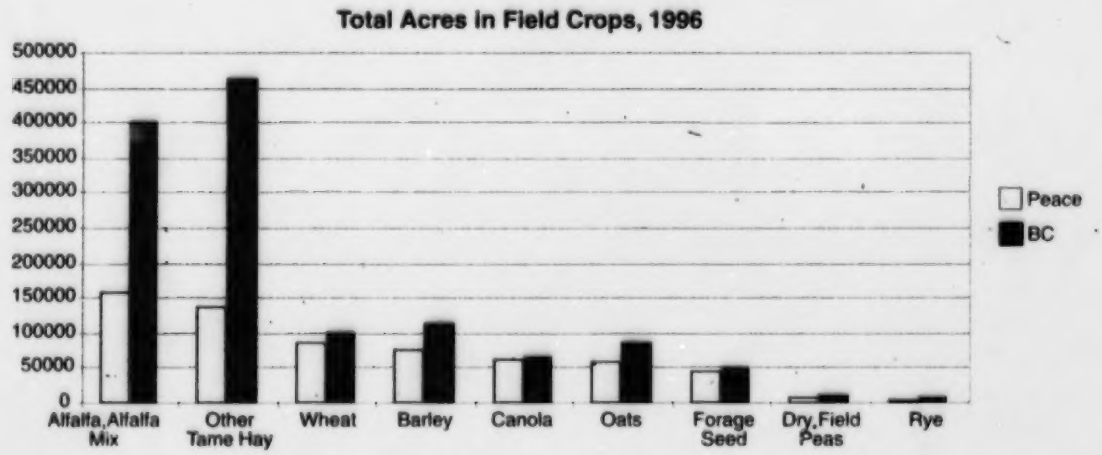
I. Field Crops continued...

Table Nine: Total Acres in Field Crops, 1996

	South Peace	North Peace	Peace	BC	Peace, % of BC
Wheat	52,807	33,601	85,408	99,203	86.1
Oats	23,717	35,067	58,784	84,220	69.8
Barley	27,602	48,673	76,275	111,483	68.4
Mixed Grains	128	1,172	1,300	5,515	23.6
Rye	2,706	598	3,304	7,041	46.9
Alfalfa + Mix	99,976	58,245	158,221	399,038	39.7
Other Tame Hay	46,576	90,702	137,278	460,819	29.8
Canola	29,296	32,150	61,446	63,805	96.3
Potatoes	27	37	64	9,000	0.7
Dry Field Peas	6,109	1,917	8,080	8,910	90.1
Forage Seed	12,153	32,792	44,945	46,918	95.6

Source: Statistics Canada, Agricultural Profile of B.C. - 1996 Census

Graph Three: Total Acres in Field Crops



J. Forage Crops

B.C.'s Peace region produces 96 per cent of B.C.'s forage seed. The main forage seeds are creeping red fescue (grass), timothy (grass) and clover (legume).

The Peace region is one of three major grass seed producing areas in the world. Most grass seeds produced in the Peace are processed at one of 15 regional processing plants, two of which are located in Dawson Creek.

Grass seed production is an important diversification option for field crop producers in the area.

Grass seed markets are independent of cereal and oilseed markets, and frequently provide much needed revenue during times of low grain prices.

Fescue straw is a by-product of grass seed production. A recently constructed fiber board plant operating close to the Alberta and British Columbia border provides an extra market for fescue straw.

Table Ten: Forage Seed Acreage, 1998

	Acreage
Total Acres in Forage	325,000
Acres Seeded in Forage Seed	45,000
Acres Harvested as Hay (alfalfa)	200,000
Acres Harvested as Silage	20,000
Acres in Tame Pasture	60,000

Source: Statistics Canada, Field Crop Reporting Series 1998

K. Horticulture Crops

Horticulture production in the Peace region is limited. This is mainly due to the lack of a large consumer market, such as the Lower Mainland or the Okanagan Valley. However, a strong local market could be developed by a serious horticulturist.

Organic production is slowly becoming more widespread. There are strict guidelines to be followed if one is to receive an organic producer status.

IV. SUMMARY

The Peace region is a fertile land base with increasing production and quality of agricultural goods. Diversity is evident in both livestock and field products. Opportunities exist in all aspects of the agriculture industry.

Field industry tours run throughout the summer months. Various groups and organizations, such as the B.C. Grain Producers and the Canola Council of Canada, conduct these tours for those directly involved and those interested in agriculture. Variety trial plots are located in areas around Fort St. John and Dawson Creek. From these plots, information can be obtained regarding various varieties of field crops. This research is helpful not only to associations, but also to farmers, industry, and research partners.

There is an extremely strong environmental awareness in the Peace region. In the spring of 1999, the Peace River Forage Association was honored with the B.C. Cattlemen's Association 1999 Environmental Stewardship Award. In addition, members of local soil conservation groups have won several provincial and national awards for leadership and innovation in soil preservation.

V. AGRICULTURAL ASSOCIATIONS IN THE B.C. PEACE REGION

BEEKEEPERS

South Peace Beekeeper's Association

CATTLEMEN'S ASSOCIATIONS

B.C. Cattlemen's Association
Cypress Creek Livestock Association
North Peace Cattlemen's Association
North Peace B.C. Feeder's Co-op
Pink Mountain Stockmen's Association
Regional Branch of the B.C. Cattlemen's Association
South Peace River Stockmen's Association
Upper Halfway Livestock Association
Upper Cache Creek Cattlemen's Association

DAIRY PRODUCERS

Peace River Dairyman's Association

EQUINE ASSOCIATIONS

Kizma Horse Club
North Peace Foundation Quarterhorse Club
North Peace Light Horse Association
Double H Horse Club

FARMER'S INSTITUTES

4-H North Peace District Council
4-H South Peace District Council
Baldonnel Women's Institute
Fort Nelson Farmer's Institute
Hudson's Hope Farmer's Institute
North Peace Farmer's Institute
North Pine Farmer's Institute
Prespatou Farmer's Institute
Rose Prairie Women's Institute

FORAGE

B.C. Branch of the Canadian Seed Growers Association
B.C. Grain Producers Association
B.C. Peace Forage Association

GAME FARMING

Peace Country Bison Association
Peace Country Reindeer Association

GRAIN PRODUCERS / ASSOCIATIONS

B.C. Grain Producers Association
B.C. Peace River Grain Industry Development Council

SEED PRODUCERS

B.C. Branch of the Canadian Seed Growers Association
Peace Region Forage Seed Association

SHEEP PRODUCERS

North Peace Sheep Producers Association
Dawson Creek Sheepbreeders Association

SOIL CONSERVATION

BST Soil Conservation Group
Flatrock / Golata Creek Soil Conservation Society
Peace River Soil Conservation Association

SWINE PRODUCERS

Peace River Swine Producers

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